THE AUSTRALIAN PLANT DISEASE RECORDER.

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PLANT DISEASE NOTES.

CEREALS AND GRASSES.

PIRICULARIA ORYZAE ON SETARIA:

Piricularia oryzae has been recorded in experimental plots of rice in Queensland. Climatic conditions in February on the Darling Downs and in the Lockyer Valley have been very suitable for the activity of this organism which is causing extensive leaf spotting in commercial Dwarf Setaria (*Setaria italica* (L.) Beauv.) crops.

- T. MCKNIGHT

CONTROL OF "FAIRY RINGS" IN TURF:

In January, 1949, an experiment was initiated at Flemington Race Course, Melbourne, to investigate the efficacy of chloropicrin in the control of "fairy rings" caused by *Marasmius oreades*.

In the rings selected for the experiment, the grass in the active zone of the fungus was quite dead and fruiting bodies were prevalent. The mycelium of the fungus occurred freely throughout the soil under this zone to a depth of approximately nine inches.

The soil in the active zone of each ring and for 2-3 inches on either side, was loosened with a pick to a depth of nine inches. Half of this loosened area in each ring was then treated with chloropicrin at the rate of 2 millilitres per injection. The distance between each injection point was approximately nine inches. Four weeks after the chloropicrin treatment, the whole of the ring was sown with grass seed.

After germination, it was noted that the early growth of the grass was much superior on the treated halves of the rings to that on the untreated portions.

Throughout the following twelve months, it has been further observed that fruiting bodies of *Marasmius oreades* have been produced frequently and freely in the untreated portions, whereas none have been produced in the chloropicrin treated areas.

In February, 1950, the soil along the circumferences of the old "fairy rings" was examined for the presence of the fungus. It was found that the white mycelium of *M. oreades* still occurred abundantly in the soil in the untreated halves of the rings, whereas the soil in the chloropicrin treated sections was quite free of the fungus.

- C.R. MILLIKAN.

FIELD AND FODDER CROPS:

PASMO DISEASE OF LINSEED. (Septoria Linicola (Sphaerella Linorum):

It had been hoped by southern plant pathologists that the Darling Downs linseed plantings would provide pasmo-free seed for Australian plantings. However, under conditions of showery weather and high humidity the disease became general in November, 1949 in the variety Walsh in Queensland. Developing late in the season, the disease probably did not produce appreciable losses in yield but extensive stem, leaf, peduncle and boll blighting occurred, and in rare instances plants lodged.

- T. MCKNIGHT.

CROWN ROT OF NEW ZEALAND BLUE LUPINS:

In the Stanthorpe district of Queensland Sclerotium rolfsii has for several years caused appreciable losses in New Zealand blue lupins. Recently, for the first time, Sclerotinia sclerotiorum has been recorded on this host producing a crown rot.

- O.R. BYRNE.

VEGETABLES

PURPLE-TOP-WILT OF POTATO:

In the United States and Canada the aster yellows virus has been recorded in many places as the cause of a disease in potatoes that has become known as "purple-top-wilt". The aster yellows virus has not been recorded in Australia although evidence has been accumulating for some time that it is one of a closely related group of viruses including the Australian big bud or virescence. In the Canberra region this summer, potato crops have shown a high incidence of a disease that corresponds almost exactly with the symptoms of "purple-top-wilt" as described and illustrated by Leach and Bishop (West Virginia Univ. Agr. Exp. Stn. Bull. 326, 1946). In an isolation plot of the variety, Factor, 20% of plants were affected. The early symptoms may easily be confused with those of "Rhizoctonia", consisting of rolling and pigmentation of the young terminal leaflets, and frequently the development of aerial tubers. Later the plants develop vascular necrosis at ground level and the stems wilt and collapse. This disease has been observed in previous seasons but has been dismissed as "Rhizoctonia".

During the summer, scions were taken from many plants at the first appearance of symptoms and grafted to Datura. Many positive transmissions have been obtained, the symptoms being those of the big bud virus. Further work is in progress.

It is proposed that the name "purple-top-wilt" be used for this disease in Australia. The use of the name big bud or virescence for the potato disease is quite inappropriate, since the disease is conspicuous by the absence of any symptoms of the virescence type. In fact, the realization that this disease is caused by the big bud virus has cleared up the oft-repeated question of why big bud as such has never been reported on potato.

- D. NORRIS.

BLACKLEG OF POTATOES:

Blackleg (A.P.D.R. 2:1:3, 1950) caused by the organism, Bacterium phytophthorum (Erwinia carotovora), has been serious in most of the main Victorian potato growing areas. In most crops there would be about 1% to 3% of blackleg, but in rare cases there are up to 10% of diseased plants.

Conditions were abnormally wet during the last planting season and there were serious losses in some areas due to seed-piece decay. Later in the season, such crops showed a considerable amount of typical blackleg.

The varieties Sequoia and Sebago have been affected most severely. The evidence to date suggests that the disease is mainly seed-borne under Victorian conditions.

- D.E. HARRISON

BACTERIAL SPOT OF TOMATO.

An outbreak of bacterial spot (Xanthomonas vesicatoria) in a tomato crop being grown for certified seed production was noted in the Stanthorpe district in Queensland early in February. The variety concerned was Q4 (derived from Rutger). Mother seed was certified seed grown in the district in the preceding season Although the crop was established on previously uncultivated soil, the method of infection of the plants indicated that the pathogen was soil-borne. Initial infection occurred on fruit in the basal hands which were touching the soil and the disease progressed up the stem. Foliage spotting was scarce.

W. PONT.

BACTERIAL SPOT OF TOMATOES:

During the past three years bacterial spot (Xanthomonas vesicatoria) has developed from a minor to a major disease of

tomatoes in New South Wales. Its distribution, in serious degree is State-wide.

Even though the bacterium is well know to be seed-borne, it has not always been possible definitely to trace outbreaks back to this source. The disease has occurred in crops grown on reputedly virgin land from seed treated in water for 30 minutes at 50°C. and subsequently dipped in mercuric chloride (1:1000) for 5 minutes. On the other hand, no alternate host has yet been identified.

In general, leaf damage has been much more prevalent than fruit lesions. Under field conditions, Rouge de Marmande, Bounty and Red Cloud appear to be more susceptible to serious attack than do most other common varieties.

- W.S. SUTTON.

MOLYBDENUM DEFICIENCY OF TOMATOES:

During the past eighteen months, responses have been secured to applications of sodium molybdate and ammonium molybdate in six commercial tomato crops in New South Wales, whilst reports of similar responses have also come from several growers. All the cases so far recorded have occurred on acid soils, having a pH of 5.5 or less, in the central coast area, mainly in two localities - one about 20 miles south-west and the other about 50 miles north of Sydney.

The main symptom of the condition is leaf chlorosis with the leaves much paler than normal. This effect is most marked on the older leaves, the younger tip leaves being affected to a much lesser extent. Accompanying the chlorosis is an upward curling of the edges of the leaflets and, in severe cases, a necrosis of the edges and tips of leaflets. Affected plants are stunted in comparison with normal plants. As in the case of molybdenum deficiency in other crop plants, there is almost invariably a "patchy" distribution of the condition with affected and apparantly normal plants growing near each other. Sometimes plants make a natural recovery. At other times, they continue small and stunted. High nitrate content of the interveinal leaf tissue is a very useful indication of a probable molybdenum deficiency.

Visible responses to application of soluble molybdenum salts are usually evident within 3 to 8 days. Both foliage and soil applications have been used, but the former sometimes causes a slight amount of leaf burn. For the cure of affected plants, an application of one fluid ounce of water containing 0.1 grams of ammonium molybdate, or sodium molybdate, watered on to the ground at the base of each plant is suggested at present, although responses have been obtained with considerably smaller dosage.

R.D. WILSON.

MOLYBDENUM AND TOMATO SPOTTED WILT:

In view of the work in Poland of Kozlowska (Bull.Acad. Polon. Sci.Ser. B (1) 1946 : 109-165, 1947) that tobacco plants given large doses of a soluble molybdenum salt became resistant to tobacco mosaic and that molybdenum also had an effect on other virus diseases, a field experiment was carried out during November and December, 1949, to determine whether molybdenum treatments of tomato plants influenced the development of spotted wilt. Applications of sodium molybdate were made to tomato plants about a week after transplanting by soil applications around the roots (0.5 grams of sodium molybdate in 5 fluid ounces of water per plant) and also by spraying a solution of the chemical on the foliage (3 spray applications,at weekly intervals, of (a) 0.1 grams of sodium molybdate in 2 fluid ounces of water per plant, and (b) 0.025 grams in ½ fluid ounce of water per plant. During the six weeks in which the experiment was in progress, approximately 40% of the 900 plants used developed symptoms of spotted wilt. There was no statistically significant difference between the number of untreated plants showing spotted wilt symptoms and the number of plants developing the disease after any of the sodium molybdate treatments. Moreover, the molybdate applications had no observable effects on plants already showing symptoms of the disease.

- R.D. WILSON.

"ROOT CANKER" IN RED-BEET:

The "root canker" condition in red beet described by R. J. Conroy (A.P.D.R.1: 3: 4, 1949) appears to be symptomatically similar to a disease which was very prevalent in eastern Victoria during the war years, and which was known as "dry rot" in this region.

The Disease occurred at Sale, and on river flat country at Lindenow, Bruthen and Orbost, where it was the principle cause of rejection in beet grown for canning and dehydration purposes. In several high yielding crops, almost 90% of the plants developed root cankers.

A survey of red beet crops was conducted in the east Gippsland area in February, 1945. The survey disclosed that, in general "root canker" was more prevalent in early than in late spring sowings. Affected beet could not be detected by foliage symptoms, but the foliage of most crops and developed red pigmentation and buff or tan colored necrotic spots were prevalent on lower leaves. Organisms such as Cercospora betae and Phoma betae were isolated frequently from these lesions. Root cankers were very similar to those described by Conroy, and organisms such as Fusarium spp., Phoma betae and Rhizoctonia sp. were frequently growing profusely on the surfaces of the lesions. Internal symptoms were also found in affected, and in apparently

normal, roots. These symptoms consisted of hard, black areas of necrotic tissue, seldom more than 5 mm. in diameter, which usually occurred close to the outer skin of the root. The presence of internal spots was sometimes indicated by crumpent or slightly depressed areas on the exterior of the root. Such lesions were regarded as a transition phase between internal spots and the ruptured canker which typified the disease.

When slices of affected roots were decolorized by boiling in an aqueous solution of sodium sulphite, the structure of root cankers and internal spots could be observed more readily. it was found that these areas remained black, and were corky in texture. They sometimes penetrated into normal root tissue to a depth of 10-15 mm. immediately below the ruptured surface of the lesion, and extended for a considerable distance around the circumference of the root. Internal spots were also rendered more obvious by this method of examination.

As these symptoms closely resembled those of internal black spot disease resulting from boron deficiency, specimens of affected and normal roots from various localities were subjected to chemical analysis. However, analyses showed that the boron content of affected roots was consistently higher than that of healthy roots.

In one field experiment conducted by D. M. McAlpin, of the Victorian Department of Agriculture, boron was applied to a summer sown crop of red beet at the rates of 21, 42 and 56 lbs. per acre. Unfortunately, the disease did not occur in this experiment, but chemical analyses showed that the boron content of roots from treated and untreated plots was practically identical, and that the boron content of beet from untreated plots was relatively high.

With the end of the war, red beet disappeared as a field crop from east Gippsland, and the disease has not been observed since elsewhere in Victoria.

Interest in this problem revived, however, following the discovery of a yellows type virus which affects sugar beet, red beet and spinach in Victoria. The virus, which is now believed to be distinct from the European beet yellows virus, and which is to be designated spinach yellows virus, is prevalent in east Gippsland localities.

The sugar beet mosaic virus also occurs in this area, and the possibility of one or other of these viruses, or a complex infection of the two, being associated with the red beet canker condition, will be investigated this year.

- L.L. STUBBS.

RUST OF DWARF FRENCH BEANS:

During the past year, rust has been recorded in New South Wales on dwarf French beans from many new localities additional to those in which it was previously reported (A.P.D.R 1: 1: 6: 7: 1949 and 1: 2: 21: 1949). Records have come from Murwillumbah on the Far North Coast to Kiah, near the Victorian border. Commercial plantings of the following varieties have now been found affected: Brown Beauty, Hawkesbury Wonder, Tweed Wonder, Wellington Wonder and Clarendon Wonder. During August, 1949 the teleutospore stage of the fungus was found in bean crops in the Gosford district. It is not know how important the teleutospore stage is in the overwintering of bean rust under New South Wales conditions, although, in a district such as Gosford, where there is almost continuous cropping with beans throughout the year, it would appear that the disease could carry over merely by means of uredospores. The disease has appeared in crops located many miles from any other beans, indicating a wide dispersal by means of wind-blown spores.

Towards the end of the season, in February and March, most seed crops on the N.S.W. South Coast were affected, this being the first season that rust has been recorded on dwarf beans in that area, although seed crops of the Epicure variety have been affected there every year for at least the preceding five years. Experience up to the present with the disease suggests that it is likely to become a serious factor in reducing yields on the Central Coast and North Coast of N.S.W. but that it will be of much less importance on the South Coast and in inland areas with a relatively short growing season.

- R.D.WILSON.

INSTITUTION OF A BEAN SEED CERTIFICATION SCHEME OF NORFOLK ISLAND:

French bean seed has been the main agricultural export from Norfolk Island for many years, the annual production in recent years ranging between 1000 and 2000 bushels. The crop is planted in August and September and harvesting takes place from late November to mid January. The seed is shipped to Sydney in the summer and autumn and most of it is used for the planting of autumn and winter crops in Queensland and on the North Coast of New South Wales.

For many years, Canadian Wonder was almost the only variety grown, but the introduction of halo blight has resulted in its displacement by Hawkesbury Wonder, which last season represented over 90% of the beans planted on the Island. The other varieties grown there last season were Brown Beauty, Wellington Wonder and Stayley's Surprise.

Following a visit by the writer to Norfolk Island in October last, a bean seed certification scheme was inaugurated and, of a total yield of about 2000 bushels approximately one third has been certified. Apart from a few bushels of Stayley's Surprise, this all consisted of Hawkesbury Wonder. The rules governing the scheme are essentially the same as those in operation for similar schemes in the three eastern mainland states of Australia, with field inspections of the growing crop and a zero tolerance for halo blight, anthracnose and American common blight. Field inspections, supervision of harvest and post-harvest operations, sealing, labelling, etc. are being carried out by Mr. H.F. Chapman, Agricultural Officer of the Norfolk Island Administration.

Bean diseases found on Norfolk Island included halo blight, anthracnose, Sclerotium rot, Sclerotinia rot, Fusarium root rot, angular leaf spot, a Phyllosticta leaf spot and mosaic. The incidence of mosaic in all crops seen by the writer in October, 1949 was very low. Neither bacterial spot (Pseudomonas syringae) nor American common blight was seen in any Norfolk Island bean crop during the past season.

- R.D. WILSON.

APPARENT FREEDOM FROM DISEASE OF NORFOLK ISLAND CARROT CROPS.

During a visit to Norfolk Island in October, 1949, the writer was able to inspect most of the carrots grown on the Island, including two crops being grown for seed. Carrot seed production commenced there in a small way about two years ago. No symptoms of Stubbs' carrot virus were seen in any of the crops, nor was any evidence of bacterial blight (Xanthomonas caratae), leaf blight (Alternaria dauci)or leaf spot (Cercospora carotae) seen.

According to L.L. Stubbs (Aust. Jour. Sci. Res. 1: 3: 303-322: 1948) the carrot virus was the principal limiting factor to carrot seed production in Australia during the last war. Even with the use of tolerant varieties, seed yields in most parts of Australia are almost certainly adversely affected. Accordingly, if the apparent freedom from the virus disease in October, 1949 is representative of the normal condition of carrot crops on Norfolk Island, there would appear to be prospects of further development there of carrot seed production, particularly if freedom from the seed-borne fungal and bacterial diseases is also maintained.

- R.D. WILSON.

FRUIT:

RASPBERRY DISEASE SURVEY:

In November, 1949 raspberry mosaic was detected in a plantation of the Lloyd George variety in the New Norfolk District. Up to that time the disease had not been recorded in Tasmania, and therefore a survey of raspberry plantations was conducted with the object of determining the distribution of the disease. During the course of the survey 150 plantations were inspected. In addition to determining the incidence of mosaic, information was also obtained on the occurrence and severity of other diseases.

It was found that mosaic is present throughout the areas where the Lloyd George variety is grown. Except in the early spring, the symptoms of the strain of mosaic present here are inconspicuous on the Lloyd George variety. The early spring growth exhibits marked chlorotic areas, and the leaves are frequently very distorted. Within a short time the symptoms become less obvious and are frequently confined to small chlorotic areas on the older leaves, particularly those toward the centre of the bush. The chlorotic areas are frequently slightly raised and blistered. By the end of the second week of January the symptoms were difficult to detect because of the premature development of "autumn tints" due to dry seasonal conditions, and the survey was discontinued. In a few cases, the officer conducting the survey reported that mosaic was not detected on Lloyd George plants, but this is more likely to be due to the masking of symptoms, than to the absence of the virus. However all such reports will be investigated fully next season. The survey indicates that immediate eradication of the virus is impracticable. The virus has not been found on varieties other than Lloyd George, and none of the known vectors of the disease are present in this State.

It appears that the virus has been present in the variety since the first introduction, and has been spread solely by vegetative propagation. If virus-free Lloyd George material can be obtained, it is intended to gradually replace infected plantations with it, or alternatively with a seedling variety "Neika" which is similar in many respects to Lloyd George, but is virus free.

The survey showed that anthracnose (Elsinoe veneta) is at present the most serious disease of the crop, and severe damage due to the disease was noted on one third of the properties visited.

G.C. WADE.

BORON TOXICITY ON RASPBERRIES:

During the course of a raspberry disease survey, a grower was visited who had applied borax at the rate of 80.1bs. per acre to his raspberry plantation. As might be expected, severe injury resulted, and it is felt the symptoms may be worth recording here.

The most severe symptoms were present on the lower leaves, which showed a bright orange-yellow discolouration with reddish purple blotches in the interveinal areas. Marginal necrosis was also present.

Leaves of intermediate age showed a reddish purple discolouration of the interveinal areas on the upperside of the leaves. Symptoms on the youngest leaves were similar, but less pronounced.

- G.C. WADE.

CHERRY LEAF SPOT - COCCOMYCES HIEMALIS HIGGINS.

The Cylindrosporium hiemalis Higgins stage of this serious cherry disease has recently been detected in four nurseries in the Sydney Metropolitan Area. This is the first record of its occurrence in N.S.W and, as far as is known, the first in Australia.

Approximately 10,000 infected stocks and trees in the four nurseries concerned have been destroyed by burning and arrangements are in hand to place a temporary quarantine on these nurseries with regard to susceptible Prunus species.

Surveys of nurseries and orchards throughout the State are in progress and so far no further evidence of the disease has been detected.

An attempt is being made to determine the source of entry of the disease but the position is not yet clear.

In the absence of an Australian Check List I should be pleased to learn if other Pathologists have encountered this disease.

- K.E. HUTTON.

"FROG-EYE" SPOT ON APPLES:

This season a leaf-spotting of some varieties of apples has been very common throughout Tasmania. The spots are tan-coloured and concentric raised rings are often present in the lesions. The spots frequently become confluent to that considerable areas of the leaf surface are destroyed. The more

severely affected varieties are Jonathan, Sturmer, and Crofton, while Delicious is almost immune.

Difficulty has been experienced in isolating an organism which could be considered responsible for the trouble. Sphaeropsis malorum has been isolated in several cases, and as the symptoms resemble those due to the organism, it is felt that Sphaeropsis is the probable cause.

The disease has been noted each season since I have been in Tasmania, but it is much more severe than usual this season. Tasmania experienced a wet spring and early summer followed by an exceptionally dry summer and early autumn, and these conditions have apparently favoured the disease.

In many cases where leaf spotting has been severe, limb cankers have been rare or absent, and normal black spot schedules have been applied. The normal recommendations for control are therefore ineffective. Any observations on the control of the disease from other pathologists would be appreciated.

- G.C. WADE.

A FRUIT ROT OF FIGS CAUSED BY PHYTOPHTHORA PALMIVORA:

Following several weeks of intermittent rain in March-April, a fruit rot of White Adriatic fig was recorded from a Sydney suburban garden. The disease spread with great rapidity and figs of all stages of immaturity as well as ripe fruit were attacked.

The first sign of infection was a dark green watersoaked appearance of the skin, which within 24 hours was covered by a white crust of sporangia. The infected fruit remained firmly attached to the tree. Leaves and twigs were not attacked.

This disease has not previously been recorded in New South Wales.

- L.R. FRASER.

IDENTITY OF THE VIRUS OF THE WOODINESS OR MOSAIC DISEASE OF PASSIONFRUIT:

An investigation carried out by the writer some years ago led him to conclude that the virus which causes this serious disease of passionfruit is a strain of Cucumis virus I. This was referred to in Agric. Gaz. N.S.W. 59, p.201.1948, and in a paper presented at the Hobart meeting of A.N.Z.A.A.S. in 1949.

This was mentioned in correspondence in 1949 with the Plant Diseases Division, C.S.I.R., New Zealand, and it is now desired to report that this diagnosis has been confirmed in New Zealand. In a recent letter, Dr. P.R. Fry, Mycologist, refers to having tested a number of infected plants and achieving transmission to tobacco and cucumber. The symptoms on these hosts were typical of cucumber mosaic.

- C.J. MAGEE.

ORNAMENTALS:

ALTERNARIA DIANTHI ON CARNATION FLOWERS:

Alternaria dianthi is at times the cause of serious leaf injury to carnations in coastal New South Wales, particularly in wet autumn weather. Lesions are most noticeable on the oldest leaves and on these spore production is heavy. Quite young leaves are also attacked, with the production of small yellow lesions, but no case of flower infection had been observed in previous seasons. However, following prolonged wet weather in March, the outer petals of blooms of the variety Frank Aldritt brought in by a suburban nurseryman, were found to be badly damaged by this fungus. The affected tissue was light brown and shrivelled and bore very numerous spores. The tips of the sepals were similarly affected. Injury by rain probably preceded the attack.

- L.R. FRASER.

MISCELLANEOUS PLANTS:

RUST ON FIMBRISTYLIS:

In March 1950, a rust was observed on Frimbristylis dichotoma Vahl. growing at Grovely, near Brisbane. So far, only uredospores have been found. On the information available in Brisbane, this appears to be the first record of a rust on this genus for Australia.

- J. GREEN.

A NEW HOST FOR COMMON BEAN MOSAIC.

Hardenbergia monophylla affected with common bean mosaic virus was found at Pennant Hills in November, 1949.

The vine had leaves showing a severe mottling with some degree of marginal distortion. Sap inoculations were made from crushed young leaves of this plant on to thirty bean seedlings at the first leaf stage. In eight days, three of the bean plants showed typical bean mosaic symptoms on the third and fourth leaves

of the inoculated plants. Further inoculations were made from the leaves of Hardenbergia onto seedlings of crimson clover, but these did not develop any symptoms. It was concluded that the native perennial leguminous vine, Hardenbergia monophylla was infected with common bean mosaic virus, or Phaseolus virus 1. This diseased plant was found near cultivated rows of French beans (Brown Beauty) in which about 45 per cent of the plants showed symptoms of common bean mosaic. It is possible that the virus was transmitted to the native plant from the beans, because only leaves of current growth of the Hardenbergia showed symptoms

- N.H. WHITE.

GENERAL AND MISCELLANEOUS NOTES:

SEASONAL CONDITIONS AND DISEASE IN S.E.QUEENSLAND:

Spring and early summer rainfall in Queensland in the 1949-50 season was considerably above average. This was reflected in increased incidence of many air-borne fungus diseases. Irish blight (Phytophthora infestans) was serious in the Fassifern and Brisbane Valley in the spring potato crop which is usually free from this trouble. Wheat scab (Gibberella zeae) seldom previously recorded in Queensland, caused heavy losses in a few crops. Significantly this was found in the South Burnett in an area, which is predominantly maize growing. Black spot (Venturia pyrina) of pears, and anthracnose (Elsinoe ampelina) and downy mildew (Plasmopara viticola) of grapes, were more serious than usual and copper sprays had to be used more frequently or proved inadequate. Anthracnose (Glomerella cingulata) of mango caused dropping of blossoms and small fruit in S.E.Queensland to such an extent that the crop remaining was negligible.

- R.B. MORWOOD.

COMMONWEALTH MYCOLOGICAL INSTITUTE NOTES.

LETTER FROM THE DIRECTOR:

In a recent letter, Dr. S.P. Wiltshire commented favourably on the inclusion of this section in the A.P.D.R. as a means of the C.M.I. keeping in touch with Australian plant pathologists. It was felt that perhaps more use could be made by us of the Institute than is done. He had enjoyed very much the recent visit of Dr. B.T. Dickson and hoped that all Australians would feel free to pay a visit to Ferry Lane should they ever be in London.

"One of the ways in which the services of the Institute could be better used by Australian plant pathologists is as regards

literature. We have an extensive collection of separates, 40,000 or more, and these we are always willing to lend. Furthermore, if we have not a paper available in our library or at Kew we scour this country for a copy, and if we cannot find one here we are prepared to continue the search abroad. Recently we were successful in locating a small paper by De Bary in a most out-of-the-way German periodical, of which only a part of the title was first given me. I searched Britain, then Germany, then got in touch with U.S.A., and finally ran it to earth in Cornell Library. It was most satisfying to send a microfilm of it to my client a few days ago".

C.A.B. REVIEW CONFERENCE, 1950:

A Conference to review the work, finance, direction and possible extension of the usefulness of the two Institutes and eleven Bureaux which come within the structure of the Commonwealth Agricultural Bureaux Scheme will be held in London in June. The Australian delegation to the Conference will be led by Dr. Clunies Ross.

The agenda includes, in addition to purely administrative matters:

1. Report on action taken on the recommendations of the previous Review Conference of 1946.

2. Proposals for new and revised activities.

   (a) Proposal for a Bureau of General Husbandry or the alternative of a general husbandry journal.
   (b) Proposal for a Bureau of Agricultural Economics.
   (c) Proposal for a Bureau of Wild Life Management.
   (d) Proposal for a Bureau of Agricultural Engineering.
   (e) Proposal for a Bureau of Fisheries.
   (f) Plant Expeditions Committee and co-ordination and maintenance of plant collections throughout the Commonwealth.
   (g) New or revised publications of C.A.B.
   (h) Food technology.

3. Relations with international bodies - in particular, F.A.O.

Much of the discussion, undoubtedly, will centre around finance and the Conference can be expected to provide a critical test of the future of the C.A.B. scheme. Rising costs and depleted reserves threaten continuance of existing activities with their necessary normal expansion. Fresh activities of the C.M.I. since the 1946 Conference include the taking over of the Commonwealth Culture Collection, the establishment of Microfilm Reproduction service, the proposed issue of a broad sheet on items of mycological and phytopathological interest, and loose leaf sheets describing

plant pathogenic fungi. Increased costs of staff and printing have already prevented full implementation by C.M.I. of the recommendations of the 1946 Review Conference and the need for additional accommodation will call for a major item of capital expenditure.

The financing of the C.A.B. Scheme is undertaken by member governments on an allotted share basis. The budget approved by the 1946 Review Conference was for a gross annual expenditure of £127,160, of which Australia's share was £18,700 (stg). Of this amount the Federal Government provided £16,238 and the States £2,462. The Federal Government's contribution included the total cost to Australia of the Bureaux and half the cost of the two Institutes. The States contributed the remaining half of the cost of the Institutes on a per capita basis.

The budget for maintenance of existing activities which will be presented for approval at the forthcoming Conference will total £200,028, of which £23,750 will be for the C.M.I. In addition, Conference will consider a capital outlay of £60,000 for a new site and a building extension for C.M.I. Should any or all of the proposals for the establishment of new Bureaux be agreed to, the budget will need to be supplemented.

- C.J. MAGEE.